

DOCKET NO.: CARP-0087
Application No.: 09/746,219
Office Action Dated: November 3, 2004

PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Original) A catalyst support for selective gas phase reactions in a tubular fixed bed reactor comprising a metallic monolith having channels the walls of which are adapted to receive a catalytically active phase or an intermediate layer acting as a carrier for a catalytically active phase.
2. (Original) A catalyst support according to claim 1 wherein the channels are substantially parallel to the longitudinal axis of the monolith.
3. (Previously presented) A catalyst support according to claim 1 wherein the perpendicular cross section of each channel forms a cell delimited by a closed line represented by the perimeter of the cross section of the channel walls.
4. (Previously presented) A catalyst support according to claim 1 wherein the shape of each cell perimeter is regular.
5. (Original) A catalyst support according to claim 4, wherein said shape is square, triangular, hexagonal, or circular.
6. (Previously presented) A catalyst support according to claim 1 wherein the shape of each cell perimeter is irregular.
7. (Previously presented) A catalyst support according to claim 1, wherein the cell density is at least 3 cells/cm².
8. (Original) A catalyst support as claimed in claim 7 wherein the cell density is between 8 and 100 cells/cm².

9. (Previously presented) A catalyst support according to claim 1 wherein the size of the cells is less than 5 mm.

10. (Original) A catalyst support according to claim 9 in which the size of the cells is between 1 and 3 mms.

11. (Previously presented) A catalyst support according to claim 1 wherein the volume fraction of the metallic support is less than 0.9.

12. (Original) A catalyst support according to claim 11 wherein the volume fraction of the metallic support is between 0.15 and 0.6.

13. (Previously presented) A catalyst support according to claim 1 wherein the surface area per unit volume of the monolith is at least $6 \text{ cm}^2/\text{cm}^3$.

14. (Original) A catalyst support according to claim 13 wherein the surface area per unit volume of the monolith is at least $10 \text{ cm}^2/\text{cm}^3$.

15. (Previously presented) A catalyst support according to claim 1 wherein the length of the monolith is at least 5 cms.

16. (Original) A catalyst support according to claim 15 wherein the length of the monolith is in the range 30 cms to 1 m.

17. (Previously presented) A catalyst support according to claim 1 wherein the metallic structure formed by the channel walls of the monolith is continuous.

18. (Previously presented) A catalyst support according to claim 1 made of a metal selected from the group consisting of copper, aluminum, nickel and alloys thereof.

19. (Previously presented) A catalyst support according to claim 1 made of an alloy comprising predominantly iron, chromium, and aluminum.
20. (Previously presented) A catalyst support according to claim 1 wherein the surface of the monolith is covered by an intermediate layer acting as a carrier for a catalytically active compound.
21. (Previously presented) A catalyst support according to claim 20, wherein the intermediate layer is made of material selected from the group consisting of aluminum hydroxides, aluminum oxide-hydroxides, alumina, silica, zirconia, titania, magnesia, pumice, diatomaceous earth zeolites and their mixtures.
22. (Previously presented) Process for making a catalyst support according to claim 1 comprising extrusion of metals or metallic powders, folding and/or stacking metallic foils or sheets.
23. (Previously presented) Process for making a catalyst support according to claim 1 wherein the intermediate layer is deposited on the surface of the monolith by a washcoating technique.
24. (Previously presented) A catalyst comprising a catalyst support according to claim 1 and catalytically active material deposited on the walls of the channels, optionally with said intermediate layer.
25. (Original) A tubular reactor filled with a catalyst according to claim 24, wherein the walls of the monoliths are in contact with the wall of the reactor.
26. (Previously presented) A method for selectively reacting reagents in a gas phase exothermic reaction comprising reacting said reagents in a tubular fixed bed reactor comprising a metallic monolith having channels the walls of which are adapted to receive a

catalytically active phase or an intermediate layer acting as a carrier for a catalytically active phase.

27. (Previously presented) The method of claim 26, wherein the gas phase exothermic reaction is the selective chlorination and/or oxychlorination of alkenes or alkanes or the selective oxidation of alkenes.

28. (Previously presented) The method of claim 27, wherein the reaction is selected from the group consisting of the conversion of ethylene with chlorine to 1,2-dichloroethane, the conversion of ethylene with hydrogen chloride with air or oxygen to give 1,2-dichloroethane, the conversion of ethane with hydrogen chloride with air or oxygen to give a saturated or unsaturated chlorinated hydrocarbon, and the reaction of methane with chlorine.

29. (Previously presented) The method of claim 27 wherein the catalyst for the oxychlorination reaction of ethylene contains copper in an amount of 1 to 12 wt % of the intermediate layer.

30. (Previously presented) The method of claim 29, wherein the catalyst also comprises at least one alkali metal, alkaline earth metal, group IIB metal or lanthanide in a total amount up to 6 wt % of the intermediate layer.

31. (Previously presented) The method of claim 27 wherein the catalyst for the oxychlorination reaction of ethane contains in the intermediate layer copper and an alkali metal in the atomic ratio 2:8.

32. (Previously presented) The method of claim 31, wherein the catalyst also comprises at least one alkaline earth metal, group IIB metal or lanthanide.

33. (Previously presented) The method of claim 27, wherein the catalyst for the selective oxidation reaction of ethylene comprises at least silver, and at least one alkali and/or alkaline earth metal.

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34. (Previously presented) A method for selectively reacting reagents in a gas phase endothermic reaction comprising reacting said reagents in a tubular fixed bed reactor comprising a metallic monolith having channels the walls of which are adapted to receive a catalytically active phase or an intermediate layer acting as a carrier for a catalytically active phase.

35. (Previously presented) The method of claim 28 wherein the conversion of ethane with hydrogen chloride with air or oxygen produces 1,2-dichloroethane.

36. (Previously presented) The method of claim 28 wherein the conversion of ethane with hydrogen chloride with air or oxygen produces vinyl chloride.